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EXAMINER
LISTVOYB, GREGORY

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BOTHO HOFFMANN,
HEINZ HOFF, HANNS-JÖRG LIEDLOFF,
and RALPH KETTL

Appeal 2009-008348
Application 10/536,494
Technology Center 1700

Before ADRIENE LEPIANE HANLON, PETER F. KRATZ, and
MARK NAGUMO, *Administrative Patent Judges*.

HANLON, *Administrative Patent Judge*.

DECISION ON APPEAL[1]

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[1] The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the "MAIL DATE" (paper delivery mode) or the "NOTIFICATION DATE" (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

This is an appeal under 35 U.S.C. § 134 from an Examiner's decision finally rejecting claims 1-18, all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

The subject matter on appeal relates to semi-crystalline, melt processable, partially aromatic copolyamides. Claim 1, reproduced below, is illustrative.

> 1. Semi crystalline, melt processible, partially aromatic copolyamides, producible by condensation of at least the following monomers or precondensates thereof:
>
> a) terephthalic acid
>
> b) *at least one dimerised fatty acid with up to 44 carbon atoms, wherein the dimerised fatty acid has a trimerised fatty acid content of at most 3% by weight*, and
>
> c) at least one aliphatic diamine of the formula H_2N-$(CH_2)_x$-NH_2, wherein x means a whole number from 4-18, with the proviso that when the partially aromatic copolyamide is produced by condensation of the monomers or precondensates a), b) and c) where X is 6, and further d) adipic acid, the melting point of the copolyamides is at least 265°C as measured by Differential Scanning Calorimetry (DSC).

App. Br., Claims Appendix (emphasis added).[2]

The following Examiner's rejections are before us on appeal:

(1) Claims 1-5, 7, 9, and 11-18 are rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Nakamura[3] and Frihart,[4] as evidenced by Uang.[5]

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[2] Appeal Brief dated March 6, 2008.
[3] US 6,291,633 B1 issued September 18, 2001.

(2) Claims 6, 8, and 10 are rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Nakamura, Frihart, and Coquard 379,[6] Coquard 951,[7] or Drawert.[8]

B. ISSUE

The Examiner contends that the sole difference between the copolyamides recited in claim 1 and Nakamura polyamide resin (A-1) is that resin (A-1) does not include a dimerized fatty acid. Ans. 5.[9] Relying on Frihart, as evidenced by Uang, the Examiner contends that it would have been obvious to one of ordinary skill in the art to use a dimerized fatty acid as recited in claim 1 in Nakamura polyamide resin (A-1) "to enhance processability of the polyamide." Ans. 6.

The Appellants contend that Nakamura, Frihart, and Uang "are directed to different types of polyamides from one another." App. Br. 7. Therefore, the Appellants contend that it would not have been obvious to one of ordinary skill in the art to incorporate a dimerized fatty acid in the polyamide of Nakamura based on the teachings of Frihart and Uang. App. Br. 7.

In view of the foregoing, the sole issue on appeal is:

Did the Examiner reversibly err in concluding that it would have been obvious to one of ordinary skill in the art to incorporate a dimerized fatty acid as recited in claim 1 in Nakamura resin (A-1) in view of Frihart, as evidenced by Uang?

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[4] US 5,786,086 issued July 28, 1998.
[5] US 2003/0126788 A1 published July 10, 2003.
[6] US 4,680,379 issued July 14, 1987.
[7] US 4,826,951 issued May 2, 1989.
[8] JP 05-125184 published May 21, 1993.
[9] Examiner's Answer dated May 29, 2008.

C. FINDINGS OF FACT

1. Nakamura

Nakamura discloses a polyamide resin composition having excellent mechanical properties, moldability, and weld strength. Nakamura 1:5-7.

The resin composition is a blend comprising:

100 parts by weight of a polyamide resin comprising

(A-1) a crystalline, partly aromatic copolyamide resin containing one kind of aromatic monomer units and/or

(A-2) a crystalline aliphatic polyamide resin and

either (B-1) a polyamide resin comprising units derived from a xylylenediamine and units derived from an aliphatic dicarboxylic acid or

(B-2) a noncrystalline, partly aromatic copolyamide resin containing at least two kinds of aromatic monomer units; and

5 to 200 parts by weight of (C) an inorganic filler.

Nakamura 2:17-43.

Nakamura discloses that resins (B-1) and (B-2) are added to the resin composition to improve fast-cycle molding and weld strength. Nakamura 1:66-2:16.

2. Frihart

Frihart discloses a method for making improved, electrically insulated conductive wires. The method includes the step of coating a conductive wire with an insulating material comprising a curable acrylate-modified aminoamide resin. Frihart 2:47-54.

Frihart discloses that the acrylate-modified aminoamide resin is prepared by reacting a polyamide resin containing one or more reactive

amino groups with a monomeric acrylate material containing at least two acrylate groups. Frihart 4:48-52.

In a preferred embodiment, the polyamide resin is derived from polymerized fatty acids, linear, branched or cyclic dicarboxylic acids, and linear, branched or cyclic polyamines. Frihart 5:24-27.

The polymerized fatty acids or "dimer acids" typically have from about 60 to about 95% C_{36} dibasic acids and from about 1 to about 35% C_{54} tribasic and higher polymeric acids. Frihart 5:31-40.

Frihart discloses that the coatings provide good mechanical strength and toughness and are highly flexible and workable. Frihart 3:28-32.

3. Uang

The invention disclosed in Uang relates to translucent flammable articles, preferably candles, which are self-supporting and storage stable. Uang, para. [0001].

Uang discloses that the composition, from which the flammable articles can be made, includes a gellant, a solvent, and a solubilizer, all mixed together. Uang, para. [0009].

Uang discloses that polyamide gellants are preferably employed. Uang, para. [0042].

A preferred class of polyamide gellants is based on the condensation of (1) diamines with (2) relatively high molecular weight polybasic acids or esters, including dibasic acids or esters. The dibasic or polybasic acids are normally mixtures of materials. Typically, the largest component is a dibasic dimeric fatty acid possessing 18 carbon atoms per carboxyl group, but other mono- or polybasic fractions may be present. Uang, para. [0044].

According to Uang:

> The physical properties of polyamides of *this type* are determined to a large extent by the identity of the dimer acids used in their production. . . . These polyamides have greater solubility in selected solvents and lower crystallinity than simpler nylons such as, for example, nylon-6,6 or nylon-6.

Uang, para. [0044] (emphasis added).

D. ANALYSIS

The Examiner finds that "[a]ddition of dimerized fatty acid decreases its melting point, which leads to better processability." Ans. 6. Based on this finding, the Examiner concludes that "it would have been obvious to a person of ordinary skills [sic, skill] in the art at the time the invention was made to use dimerized fatty acid in Nakamura's polymer to enhance processability of the polyamide." Ans. 6.

According to Nakamura, resins (B-1) and (B-2) improve the processability of the disclosed polyamide blend. *See* Nakamura 1:66-2:16. It is unclear on this record whether the Examiner is (1) proposing to add a dimerized fatty acid to resin (A-1) with no other modification to the polyamide blend of Nakamura or (2) proposing to add a dimerized fatty acid to resin (A-1) as a substitute for resin (B-1) or (B-2) in the disclosed blend.

As for the first alternative, the Examiner has failed to explain why one of ordinary skill in the art would have found it desirable to use a dimerized fatty acid in addition to resin (B-1) or (B-2) to improve the processability of the disclosed blend. As for the second alternative, the Examiner has failed to direct us to any credible evidence establishing that a dimerized fatty acid as recited in claim 1 would have been a suitable substitute for resin (B-1) or (B-2) in the polyamide blend of Nakamura.

The Examiner does not explain why Coquard 379, Coquard 951, or Drawert cure these deficiencies. Therefore, the Examiner's § 103(a) rejections will be reversed.

E. DECISION

The decision of the Examiner is reversed.

REVERSED

tc

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